



Simulating two-dimensional catenas: the new soilscape model LORICA

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The combined modelling of soils and landscapes has had scientists' attention for a long time. Several models have been developed and used for this purpose, each with their own strengths. We present LORICA; a new soilscape model that particularly attempts to strengthen the links between soil and landscape development, among others by using textural information to explicitly drive both overland erosion and deposition. Erosion threshold, deposition speed and bulk density are all linked to the soil texture, which is also changed by soil development. Exploratory results of the model for a hypothetical catchment are shown, and a sensitivity analysis is presented for a model run over 5000 years. The model and its graphical user interface are easy to understand and are intended for use in a variety of case studies. LORICA is based on MILES3D and LAPSUS.